

## SEQUENCE LISTING

<110> Kapulnik, Yoram  
Ginzberg, Idit

<120> METHOD FOR SELECTIVE AND OPTIONALLY REVERSIBLE DEGENERATION OF SOMATIC  
PLANT TISSUE

<130> 01/21632

<140> US 09/762,243  
<141> 1999-07-30

<160> 24

<170> PatentIn version 3.1

<210> 1  
<211> 563  
<212> DNA  
<213> Artificial sequence

<220>

<223> 'sps'-streptavidin artificial gene

<400> 1  
actgcagttt tgcgcaagat cgtcggttgca gccatcgccg tttccctgac cacggcttcg 60  
attacggcca gcgcttcggc agaccctcc aaggactcga aggcccaggt ctccggccgc 120  
gaggccggca tcaccggcac ctggtaacaac cagctggct cgaccttcat cgtgaccgcg 180  
ggcgccgacg gcccctgac cggAACCTAC gagtcggccg tcggcaacgc cgagagccgc 240  
tacgtcctga ccggtcgtta cgacagcgcc ccggccaccg acggcagcgg caccggccctc 300  
ggttggacgg tggcctggaa gaataactac cgcaacgccc actccgcgac cacgtggagc 360  
ggccactacg tcggccggcgc cgaggcgagg atcaacaccc agtggctgct gacccggc 420  
accaccgagg ccaacgcctg gaagtccacg ctggtcggcc acgacacctt caccaagggt 480  
aagccgtccg ccgcctccat cgacgccccg aagaaggccg gcgtcaacaa cggcaacccg 540  
ctcgacgccc tttagcgtta gtc 563

<210> 2  
<211> 186  
<212> PRT  
<213> Artificial sequence

<220>  
<223> 'sps'-streptavidin artificial gene product

<400> 2

Thr Ala Val Met Arg Lys Ile Val Val Ala Ala Ile Ala Val Ser Leu  
1 5 10 15

Thr Thr Val Ser Ile Thr Ala Ser Ala Ser Ala Asp Pro Ser Lys Asp  
20 25 30

Ser Lys Ala Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly Thr Trp  
35 40 45

Tyr Asn Gln Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala Asp Gly  
50 55 60

Ala Leu Thr Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu Ser Arg  
65 70 75 80

Tyr Val Leu Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp Gly Ser  
85 90 95

Gly Thr Ala Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr Arg Asn  
100 105 110

Ala His Ser Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly Ala Glu  
115 120 125

Ala Arg Ile Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr Glu Ala  
130 135 140

Asn Ala Trp Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr Lys Val  
145 150 155 160

Lys Pro Ser Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly Val Asn  
165 170 175

Asn Gly Asn Pro Leu Asp Ala Val Gln Gln  
180 185

<210> 3  
<211> 564  
<212> DNA  
<213> Artificial sequence

<220>  
<223> 'mst'-streptavidin artificial gene

<400> 3

gtaaaacaatg gctcgcaaga tcgtcggtgc agccatcgcc gtttccctga ccacggctc	60
gattacggcc agcgcttcgg cagaccctc caaggactcg aaggcccagg tctcgccgc	120
cgaggccggc atcacccggca cctggtacaa ccagctcgcc tcgacccctca tcgtgaccgc	180
gggcgcccac ggcgcctga ccggaaccta cgagtcggcc gtcggcaacg ccgagagccg	240
ctacgtcctg accggtcgtt acgacagcgc cccggccacc gacggcagcg gcaccgcct	300
cgggtggacg gtggcctgga agaataacta ccgcaacgcc cactccgcga ccacgtggag	360
cggccagttac gtcggcggcg ccgaggcgag gatcaacacc cagtggctgc tgacccctcg	420
caccaccgag gccaacgcct ggaagtccac gctggcggc cacgacacct tcaccaaggt	480
gaagccgtcc gccgcctcca tcgacgcggc gaagaaggcc ggcgtcaaca acggcaaccc	540
gctcgacgcc gttcagcagt agtc	564

&lt;210&gt; 4

&lt;211&gt; 184

&lt;212&gt; PRT

&lt;213&gt; Artificial sequence

&lt;220&gt;

&lt;223&gt; 'mst'-streptavidin artificial gene product

&lt;400&gt; 4

Met Ala Arg Lys Ile Val Val Ala Ala Ile Ala Val Ser Leu Thr Thr			
1	5	10	15

Val Ser Ile Thr Ala Ser Ala Ser Ala Asp Pro Ser Lys Asp Ser Lys		
20	25	30

Ala Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly Thr Trp Tyr Asn		
35	40	45

Gln Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala Asp Gly Ala Leu		
50	55	60

Thr Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu Ser Arg Tyr Val			
65	70	75	80

Leu Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr		
85	90	95

Ala Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr Arg Asn Ala His		
100	105	110

Ser Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg  
                   115                  120                  125

Ile Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala  
130 135 140

Trp Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr Lys Val Lys Pro  
145 150 155 160

Ser Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly Val Asn Asn Gly  
165 170 175

Asn Pro Leu Asp Ala Val Gln Gln  
180

<210> 5  
<211> 492  
<212> DNA  
<213> Artificial sequence

<220>  
<223> 'prost'- streptavidin artificial gene

<400> 5  
gactgcagtt gacccttcca aggactcgaa ggcccaggta tcggccgccc aggccggcat 60  
caccggcacc tggtacaacc agctcggttc gacccatc gtgaccgcgg gcggccgacgg 120  
cgccctgacc ggaacctacg agtcggccgt cgccaacgcc gagagccgct acgtccctgac 180  
cggtcggtac gacagcgccc cggccaccga cggcagcggc accggccctcg gttggacgg 240  
ggcctggaag aataactacc gcaacgcccc ctccgcgacc acgtggagcg gccagtagt 300  
cggcggcgcc gagggcgagga tcaacaccca gtggctgctg acctccggca ccaccgaggc 360  
caacgcctgg aagtccacgc tggtcggcca cgacacccatc accaagggtga agccgtccgc 420  
cgccctccatc gacgcggcga agaaggccgg cgtcaacaac ggcaacccgc tcgacgcccgt 480  
tcagcagtag tc 492

```
<210> 6
<211> 162
<212> PRT
<213> Artificial sequence
```

<220>  
<223> 'prost'- streptavidin artificial gene product

&lt;400&gt; 6

Thr Ala Val Asp Pro Ser Lys Asp Ser Lys Ala Gln Val Ser Ala Ala  
1 5 10 15

Glu Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe  
20 25 30

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser  
35 40 45

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp  
50 55 60

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val  
65 70 75 80

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser  
85 90 95

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu  
100 105 110

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val  
115 120 125

Gly His Asp Thr Phe Thr Lys Val Lys Pro Ser Ala Ala Ser Ile Asp  
130 135 140

Ala Ala Lys Lys Ala Gly Val Asn Asn Gly Asn Pro Leu Asp Ala Val  
145 150 155 160

Gln Gln

<210> 7

<211> 495

<212> DNA

<213> Artificial sequence

<220>

<223> 'mprost'- streptavidin artificial gene

<400> 7

gtaaacaatg gctgaccctt ccaaggactc gaaggccag gtctcgcccg ccgaggccgg 60

catcaccggc acctggtaca accagctcggtacccgacccatcgatgaccgcgggcgc  
 cggcgccctg accggAACCT acgagtcggc cgtcggcaac gcccggagagcc gctacgtcct  
 gaccggtcgt tacgacagcg cccccggccac cgacggcagc ggcaccgc  
 tcgggtggac  
 ggtggcctgg aagaataact accgcaacgc ccactccgac accacgtgga gcggccagta  
 cgtcggcggc gcccggaggcga ggatcaaacac ccagtggctg ctgacctccg gcaccaccga  
 ggcacaaacgccc tggaaagtcca cgctggtcgg ccacgacacc ttcaccaagg tgaagccg  
 cggccgc  
 atcgacgcgg cgaagaaggc cggcgtcaac aacggcaacc cgctcgacgc  
 cgttcagcag tagtc  
 495

<210> 8  
 <211> 161  
 <212> PRT  
 <213> Artificial sequence

<220>  
 <223> 'mprost'- streptavidin artificial gene product

<400> 8

Met Ala Asp Pro Ser Lys Asp Ser Lys Ala Gln Val Ser Ala Ala Glu  
 1 5 10 15

Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe Ile  
 20 25 30

Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser Ala  
 35 40 45

Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp Ser  
 50 55 60

Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val Ala  
 65 70 75 80

Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser Gly  
 85 90 95

Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu Leu  
 100 105 110

Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val Gly

115

120

125

His Asp Thr Phe Thr Lys Val Lys Pro Ser Ala Ala Ser Ile Asp Ala  
 130 135 140

Ala Lys Lys Ala Gly Val Asn Asn Gly Asn Pro Leu Asp Ala Val Gln  
 145 150 155 160

Gln

&lt;210&gt; 9

&lt;211&gt; 369

&lt;212&gt; DNA

&lt;213&gt; Artificial sequence

&lt;220&gt;

&lt;223&gt; 'cst'- streptavidin artificial gene

&lt;400&gt; 9

actgcaggca tcaccggcac ctggtacaac cagctcggt cgaccttcat cgtgaccgcg 60

ggccgcgacg gcccgtgac cggAACCTAC gagtcggccg tcggcaacgc cgagagccgc 120

tacgtcctga ccggtcgtta cgacagcgcc ccggccaccc acggcagcgg caccgccctc 180

ggttggacgg tggcctggaa gaataactac cgcaacgccc actccgcgac cacgtggagc 240

ggccagtacg tcggcggcgc cgaggcgagg atcaacaccc agtggctgct gacctccggc 300

accacggagg ccaacgcctg gaagtccacg ctggtcggcc acgacaccc tt caccaagggtq 360

aagccgtag 369

&lt;210&gt; 10

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Artificial sequence

&lt;220&gt;

&lt;223&gt; 'cst'- streptavidin artificial gene product

&lt;400&gt; 10

Thr Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe  
 1 5 10 15

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser  
 20 25 30

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp  
 35 40 45

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val  
 50 55 60

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser  
 65 70 75 80

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu  
 85 90 95

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val  
 100 105 110

Gly His Asp Thr Phe Thr Lys Val Lys Pro  
 115 120

<210> 11

<211> 376

<212> DNA

<213> Artificial sequence

<220>

<223> 'cyto' - streptavidin artificial gene

<400> 11

gtaaaacaatg gctggcatca ccggcacctg gtacaaccag ctcggctcga ctttcatcg 60

gaccgcgggc gccgacggcg ccctgaccgg aacctacgag tcggccgtcg gcaacgccga 120

gagccgctac gtcctgaccg gtcgttacga cagcgccccg gccaccgacg gcagcggcac 180

cgcctcggt tggacgggtgg cctggaaagaa taactaccgc aacgcccact ccgcgaccac 240

gtggagcggc cagtacgtcg gcggcgccga ggcaggatc aacacccagt ggctgctgac 300

ctccggcacc accgaggcca acgcctggaa gtccacgctg gtcggccacg acacccatc 360

caaggtgaag ccgtag 376

<210> 12

<211> 122

<212> PRT

<213> Artificial sequence

<220>

<223> 'cyto' - streptavidin artificial gene product

<400> 12

Met Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe  
 1 5 10 15

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser  
 20 25 30

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp  
 35 40 45

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val  
 50 55 60

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser  
 65 70 75 80

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu  
 85 90 95

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val  
 100 105 110

Gly His Asp Thr Phe Thr Lys Val Lys Pro  
 115 120

<210> 13  
 <211> 63  
 <212> DNA  
 <213> Triticum aestivum

<400> 13  
 atgaagacct ttctcatcct tgtcctcctt gctattgtgg cgaccaccgc cacaactgca 60  
 gtt 63

<210> 14  
 <211> 20  
 <212> PRT  
 <213> Triticum aestivum

<400> 14

Met Lys Thr Phe Leu Ile Leu Val Leu Leu Ala Ile Val Ala Thr Thr  
 1 5 10 15

Ala Thr Thr Ala  
 20

<210> 15  
<211> 25  
<212> DNA  
<213> Artificial sequence

<220>  
<223> synthetic oligonucleotide

<400> 15  
actgcagtta tgcgcaagat cgtcg

25

<210> 16  
<211> 18  
<212> DNA  
<213> Artificial sequence

<220>  
<223> synthetic oligonucleotide

<400> 16  
gactactgct gaacggcg

18

<210> 17  
<211> 32  
<212> DNA  
<213> Artificial sequence

<220>  
<223> synthetic oligonucleotide

<400> 17  
gtaaaacaatg gctcgcaaga tcgtcggtgc ag

32

<210> 18  
<211> 37  
<212> DNA  
<213> Artificial sequence

<220>  
<223> synthetic oligonucleotide

<400> 18  
gactgcagg tt gaccctcca aggactcgaa ggcccaag

37

<210> 19  
<211> 40  
<212> DNA  
<213> Artificial sequence

<220>  
<223> synthetic oligonucleotide

<400> 19		
gtaaacaatg gctgaccctt ccaaggactc gaaggcccag		40
<210> 20		
<211> 30		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> synthetic oligonucleotide		
<400> 20		
actgcaggca tcacccggcac ctggtacaac		30
<210> 21		
<211> 22		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> synthetic oligonucleotide		
<400> 21		
ctacggcttc accttggtga ag		22
<210> 22		
<211> 37		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> synthetic oligonucleotide		
<400> 22		
gtaaacaatg gctggcatca ccggcacctg gtacaac		37
<210> 23		
<211> 20		
<212> DNA		
<213> Artificial sequence		
<220>		
<223> synthetic oligonucleotide		
<400> 23		
cacgcagggtt ctccggccgc		20
<210> 24		
<211> 20		
<212> DNA		
<213> Artificial sequence		

<220>  
<223> synthetic oligonucleotide

<400> 24  
tgcgctgcga atcgggagcg

20